

(Canceled) 1. A micro-stamp array supported on a substrate comprising:

an array of micro-stamp sticks composed of a cured silicon rubber substantially of a same stick length extending vertically from a surface of said substrate.

(Canceled) 2. The micro-stamp array of claim 1 wherein:

each of said micro-stamp sticks further comprising a micro-channel for holding a liquid sample of predefined volume provided for maintaining an air-liquid equilibrium specifically for said liquid sample held therein.

(Canceled) 3. The micro-stamp array of claim 1 wherein:

said array of micro-stamp sticks composed of said cured silicon rubber having substantially a cylindrical shape of at least two different diameters.

(Canceled) 4. The micro-stamp array of claim 1 wherein:

said array of micro-stamp sticks composed of said cured silicon rubber having at least two different sizes of cross sectional areas.

(Canceled) 5. The micro-stamp array of claim 1 wherein:

said array of micro-stamp sticks composed of said cured silicon rubber having said substantially same stick length approximately equal to a thickness of a photoresist layer.

(Canceled) 6. The micro-stamp array of claim 1 wherein:

said array of micro-stamp sticks composed of said cured silicon rubber with said substantially same length having a shape and size defined by a plurality of openings in a photoresist layer.

(Canceled) 7. The micro-stamp array of claim 2 wherein:

said substrate further having a plurality of micro-stamp tapered channels wherein each of said micro-stamp channels is in fluid communication with one said micro-channel in each of said micro-stamp sticks.

(Canceled) 8. The micro-stamp array of claim 7 wherein:

each of said plurality of micro-stamp tapered channels further having a guiding tube wall for defining a channel entrance.

(Canceled) 9. The micro-stamp array of claim 8 wherein:

said guiding tube wall further comprising a patterned plating layer for defining said channel entrance.

(Canceled) 10. The micro-stamp array of claim 7 further comprising:

a refilling means for refilling each of said plurality of micro-stamp tapered channels wherein said refilling means further comprising a refilling reservoir and a plurality of refilling micro-channels for refilling each of said plurality of micro-stamp tapered channels from said refilling reservoir.

(New) 11. A micro-stamp array supported on a substrate comprising:
an array of micro-stamp heads each comprising a micro-stamp-head
channel opened through a central portion in each of said
micro-stamps;

each of said micro-stamp heads is attached to a tapered guide tube
surrounded by tapered guide-tube walls wherein said tapered
guide tube is in hydraulic communication with said
micro-stamp-head channel; and

a filler chip comprising a filler reservoirs disposing on top of said
tapered guide tubes, each of said filler reservoirs having a refill
channel opened to said tapered guide tube for refilling said tapered
guide tube and said micro-stamp-head channel.

(New) 12. The micro-stamp array of claim 1 wherein:

each of said micro-stamp-head channel is further sealed with a
breakable membrane.

(New) 13. The micro-stamp array of claim 1 wherein:

said array of micro-stamp-head channels in hydraulic
communication with said tapered guide tube are provided to
contain a liquid biological sample therein in a liquid equilibrium
state.

(New) 14. The micro-stamp array of claim 1 wherein:

said array of micro-stamp heads composed of a cured silicon
rubber.

(New) 15. The micro-stamp array of claim 1 wherein:

each of said array of micro-stamp heads having a size of ten to
hundred micrometers in diameter.

- (New) 16. The micro-stamp array of claim 1 wherein:

said array of tapered guide tubes are supported on a silicon substrate.
- (New) 17. The micro-stamp array of claim 2 wherein:

said array of guide tubes are supported on a silicon substrate and bonded to said filler chip.
- (New) 18. The micro-stamp array of claim 7 wherein:

said filler chip further comprising a primary refilling reservoirs including said micro-refilling channel formed with a RIE etching and said filler chip further comprising a secondary refilling reservoirs hydraulically communicating with said micro refilling channel and said tapered guide tubes.
- (New) 19. The micro-stamp array of claim 8 wherein:

said primary refilling reservoirs are formed in a glass substrate.
- (New) 20. The micro-stamp array of claim 8 wherein:

said secondary refilling reservoirs are formed in a cured silicon rubber